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Claims 1-11 are pending herein.

Claim 11 was rejected under §112, second paragraph. The PTO requests clarification of the term "substrate block" relative to "substrate." According to claim 11, the term "substrate block" represents a structural element along which substrate translates, a structural element separate from the substrate. See, for example, substrate block 126 along which substrates (tapes) 136 translate in Fig. 2. Applicants submit that the claims are quite clear, and accordingly request withdrawal of the §112 rejection.

Claims 1 and 7-9 were rejected under §103 over Iijima et al. (US '378 or US '772) in view of Savvides et al. (2004/0168636), Sioshansi et al. (5,236,509), Koh et al. (6,319,326) or Maishev et al (6,236,136). This rejection is respectfully traversed for the following reasons.

The PTO has appeared to rely on Iijima et al. ('378 and '772) for disclosure of basic process features in connection with a method for continuously coating a substrate with a buffer layer, and has acknowledged that Iijima et al. fail to disclose utilizing of dual RF-ion sources, as claimed. In an attempt to attend to the deficiencies of Iijima et al., the PTO has looked to Savvides et al.

Savvides et al. describe a method of depositing a biaxially textured buffer layer by utilization of dual ion sources, notably ion sources 47 and 48 shown in FIG. 3. As illustrated, the dual ion sources, are aimed at the same spot on the substrate.

The PTO has also appeared to rely upon Sioshansi et al., Koh et al., and Maishev et al. to illustrate multiple ion sources arranged in different orientations about a substrate. However, none of the cited references teach or remotely suggest dual RF-ion sources in combination with a separator as provided herein. Notably, the references do not teach or remotely suggest first and second RF-ion sources bi-laterally oriented with respect to the at least one substrate and on the same side of the substrate, the first and second RF-ion sources extending along a plane normal to the longitudinal axis of the at least one substrate so as to be aimed at different portions of the same major surface of the at least one substrate and bombard different portions of the same

major surface of the at least one substrate. Moreover, none of the references teach or remotely suggest a separator disposed between the bilaterally oriented dual RF-ion source.

As illustrated in FIG. 4, the RF-ion sources (116 and 117) are bilaterally oriented with respect to the substrate that extends along the surface of the substrate block exposed to the beams of the RF ion sources and adjacent the evaporation source and substrate block 126 (see also Fig. 2). The focus of the beams of the RF-ion sources are clearly aimed at different portions of the substrate block and are intended to bombard different substrates or portions of the same substrate extending along the surface of the substrate block. Moreover, the separator (170) is provided between the RF-ion sources and provides a barrier to prevent stray ion beams impinging upon an unintended substrate surface thereby ensuring high quality texture of the deposited film.

Applicants specifically draw the attention of the PTO to the claimed combination of (i) use of a dual RF-ion source aimed at different portions of the substrate, and (ii) a separator disposed between the sources. This particular combination of features contributes notably to improved processing of the substrate. More particularly, the combination of features has been found not only to improve substrate coverage, but also to notably improve properties of the as-deposited layer. Particularly, the combination of features enables formation of superior crystallographic texture buffer layer, which manifests in notably improved superconducting properties over state of the art deposition arrangements. Without wishing to be bound by any particular theory, the claimed arrangement is believed to improve crystallographic texture through effective blocking of unwanted or stray ions from the adjacent RF-ion sources, which applicants have discovered to degrade coating crystallography.

Applicants submit that not only is the specific arrangement as detailed above not disclosed or suggested by the references, but the attendant advantages provided by the claimed invention are not even remotely suggested by the references of record, further indicative of the non-obviousness of the claimed invention. Accordingly, withdrawal of the §103 rejection is respectfully requested.

Applicants respectfully submit that the present application is now in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for all pending claims.


Should the Examiner deem that any further action by the Applicants would be desirable for placing this application in even better condition for issue, the Examiner is requested to contact Applicants' undersigned attorney at the number listed below.

Applicants do not believe that any additional fees are due, but if the Commissioner believes additional fees are due, the Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

Date

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Jeffrey S. Abel, Reg. No. 36,079
Attorney for Applicant(s)
TOLER, LARSON & ABEL, L.L.P.
5000 Plaza On The Lake, Suite 265
Austin, Texas 78746
(512) 327-5515 (phone)
(512) 327-5452 (fax)